

## Chapter 4 Functions

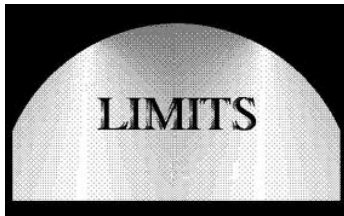
### 4.1 Domain & Range of a Function

Unit Question:

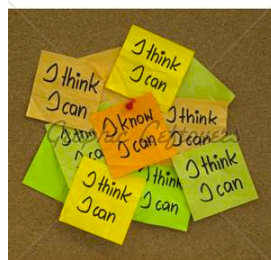
How do we function within the limits we have?

Learner Profile: Communicator

Area of Interaction: Environments



**I Can Statement:**  
I can find the domain & range of a function.



**Activity 1:** The Domain and Range of a Function

Work with a partner. The table shows the number of adult and child tickets sold for a school concert.

Number of Adult Tickets, $x$	0	1	2	3	4
Number of Child Tickets, $y$	8	6	4	2	0

- a. Write the equation in **function form** by solving for  $y$ .

$$y = -2x + 8$$

$$f(x) = -2x + 8$$

- b. The **domain** of a function is the set of all input values. Find the domain of the function represented by the table.

Domain = 0, 1, 2, 3, 4

Why is  $x = 5$  not in the domain of the function?

Because there is no such thing as negative child tickets.

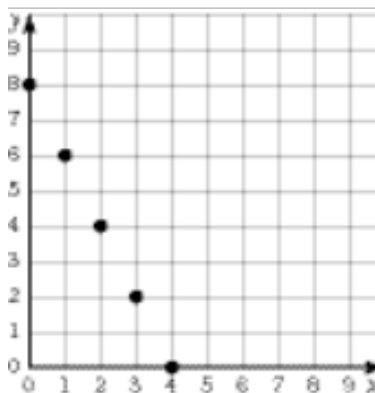
Why is  $x = \frac{1}{2}$  not in the domain of the function?

**c.** The **range** of a function is the set of all output values. Find the range of the function represented by the table.

Range = 8, 6, 4, 2, 0

**d.** Functions can be described in many ways.

- by an equation
- by an input-output table
- in words
- by a graph
- as a set of ordered pairs



Use the graph to write the function as a set of ordered pairs.

(0, 8) (1, 6) (2, 4) (3, 2) (4, 0)

## Activity 2: Finding Domains and Ranges

Work with a partner.

- Complete each input-output table.
- Find the domain and range of each function represented by the table.

a.

$$y = -3x + 4$$

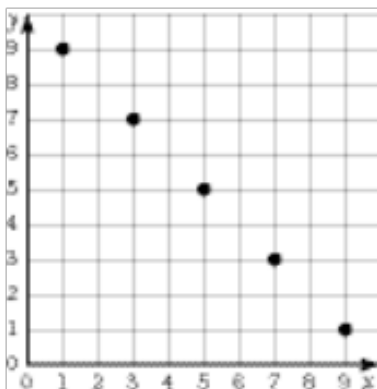
x	D	-2	-1	0	1	2
y	R	10	7	4	1	-2

b.

$$y = \frac{1}{2}x - 6$$

x	D	0	1	2	3	4
y	R	-6	$-5\frac{1}{2}$	-5	$-4\frac{1}{2}$	-4

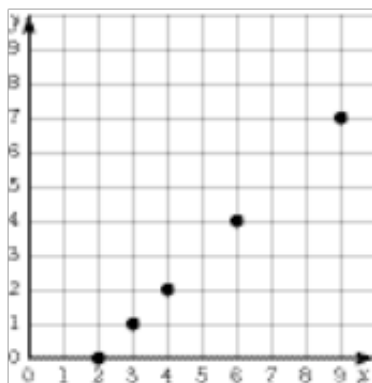
c.



Discrete Domain  
If the dots are connected it is a Continuous Domain

x	1	3	5	7	9
y	9	7	5	3	1

d.



x	D:	2	3	4	6	9
y	R:	0	1	2	4	7

**What Is Your Answer?**

3. **IN YOUR OWN WORDS** How can you find the domain and range of a function?

D - input (x)  
R - output (y)

4. **The following are general rules for finding a person's foot length.**

To find the length (in inches) of a woman's foot, divide her shoe size  $x$  by 3 and add 7.

To find the length (in inches) of a man's foot, divide his shoe size  $x$  by 3 and add 7.3.

a. Write an equation for one of the statements.

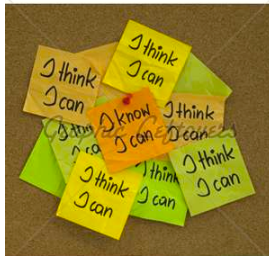
b. Make an input-output table for the function in part (a).

Use shoe sizes  $5\frac{1}{2}$  to 12.

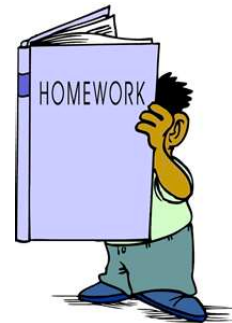
c. Label the domain and range of the function represented by the table.

# I Can Statement:

I can find the domain & range of a function.



## Assignment:



p. 152-153 4-13  
Workbook p77-79  
Workbook p81-83